we need to talk about that because that is a major maintenance concept that we use called on condition maintenance. Another thing that we need to talk about is air lines of communication and how we made use of that in Vietnam. I think that is something that we have learned very well and we need to take advantage of it.

INTERVIEWER: Alright, sir, we will come back to ALOC. But first, after Vietnam, there was the need to modernize. Secondly, there were shrinking budgets and thirdly, there was a diminishing industrial base. So really there are three areas that I would like for you to discuss.

MR CRIBBINS: Alright, let me start with my favorite. Let me start with the user and come back up through the wholesaler and try to bring what we learned in Vietnam into focus. I think that since it was a helicopter war we learned a whole lot. I will say right up front that it wasn't because we were smarter than anyone else. What happened in Vietnam is we kept running into emergencies because we were operating helicopters in such a war that we learned as the war progressed. Being in an unusual war that was 8,000 miles away from

the west coast, it became a helicopter conflict. Let me relate that with the user we found it was necessary to give them the confidence and capability to keep his aircraft safe, reliable, maintainable and ready. We couldn't do those things with just the user even though they were dedicated and worked many, many hours each week. So we supplemented them with contract maintenance. That contract maintenance capability provided continuity beyond the one year tours and provided the confidence of highly skilled people. It also gave us a inkling of what contract people would do in wartime. They sat out rocket, missile and mortar attacks along with the troops. There was no mass exit of those people when situations were tough. They were dedicated to their jobs. We found out that we were asking the user to do too much. On one hand, we believed that we had to separate the fighter and the supporter. Well, we found that in aviation we had to combine them. When we combined them, it gave the fighter the capability to support his own systems. He began taking better care of them than when he did not have the organic capability. He couldn't turn to someone else. We couldn't ask him to do the many maintenance things that we believed he could do even with supplementing him with the KD teams and the

contractors without a responsive supply system. We gave him a diagnostic capability and then made him, what I believe is the way of the future, a parts changer rather than a parts maintainer at the user level. So at the user level, we put the operator in charge. We made him fully aware of what his responsibilities were as a logistician as well as an operator. We found that this system worked very well. That doesn't take care of user level, but it gives a pretty good summary as to what we found out at the user level from the viewpoint of establishing what the user should, could or needed to do in order to sustain a fighting effort at his level. If there is anything, I guess, we've learned is that there cannot be any real differentiation at that user level between the logistician and the operator. They have got to be the same.

INTERVIEWER: Next would be the intermediate level.

MR CRIBBINS: Oh, we found that we started out with too much user maintenance at the intermediate level in the form of DS. We moved it to the user level and supplemented the user with the people, skills and capabilities that were needed. We also found that we

asked the intermediate level which was originally DS and GS, to do more work than it could accomplish because of the necessity of providing facilities, tools, equipment, people, skills, etc. Therefore, the intermediate level was overburdened and a lot of work was going to depot level. What we did was, take the overflow from the user level and concentrated more upon aircraft and weapon systems readiness at the user level than upon the DS and GS levels that were adequately supported by the existing supply system. Now what did this mean? This meant that we had to establish a more responsive supply system than we ever had before. That leads us right into the air line of communications. We found that at the intermediate level, the most important thing to do was to be able to intensively manage and move critical parts; the unserviceables, the serviceables and the consumables. From the viewpoint of the ALOC, let me relate what happened during the TET offensive because it was symbolic of how we got much deeper into the ALOC business although we had been using it in Vietnam from the beginning. In February 1968 when the Vietcong celebrated the TET with an offensive campaign, we found that a large number of our critical engines and components were lost, destroyed, captured or disappeared during that campaign. As a

result, General Abrams, who was the Deputy COMUS MACV, told General Johnson, "I know that you folks have done everything you can, but if we don't get more engines out here quickly, this war is going to come to a screeching halt." He was talking about the T-53 engine for the Huey and the Cobra, T-55 engine for the Chinook and the T-63 engine for the OH-6 and the OH-58. They turned out to be the most critical items. Well, looking at where we were, we were thinking that we had done everything. When we sorted things out, we hadn't done nearly enough. So at that time, and I'll use the T-53 engine as an example, we were using 16 engines per day in Vietnam. Those 16 engines per day were worth about $1.1 million at $65,000 to $75,000 a engine. I'll have to go back and look at my arithmetic, but I think that is pretty close to the mark. That was not the problem. The money wasn't the problem. The problem was how do we supply 16 engines a day? There was no way we could do it without ALOC. [End Tape C-219, Side 2]

[Begin Tape C-220, Side 1]

MR CRIBBINS: We already had instructions in the field which stated that if an engine could be repaired at any level in Vietnam in 30 days, it was to be retained for

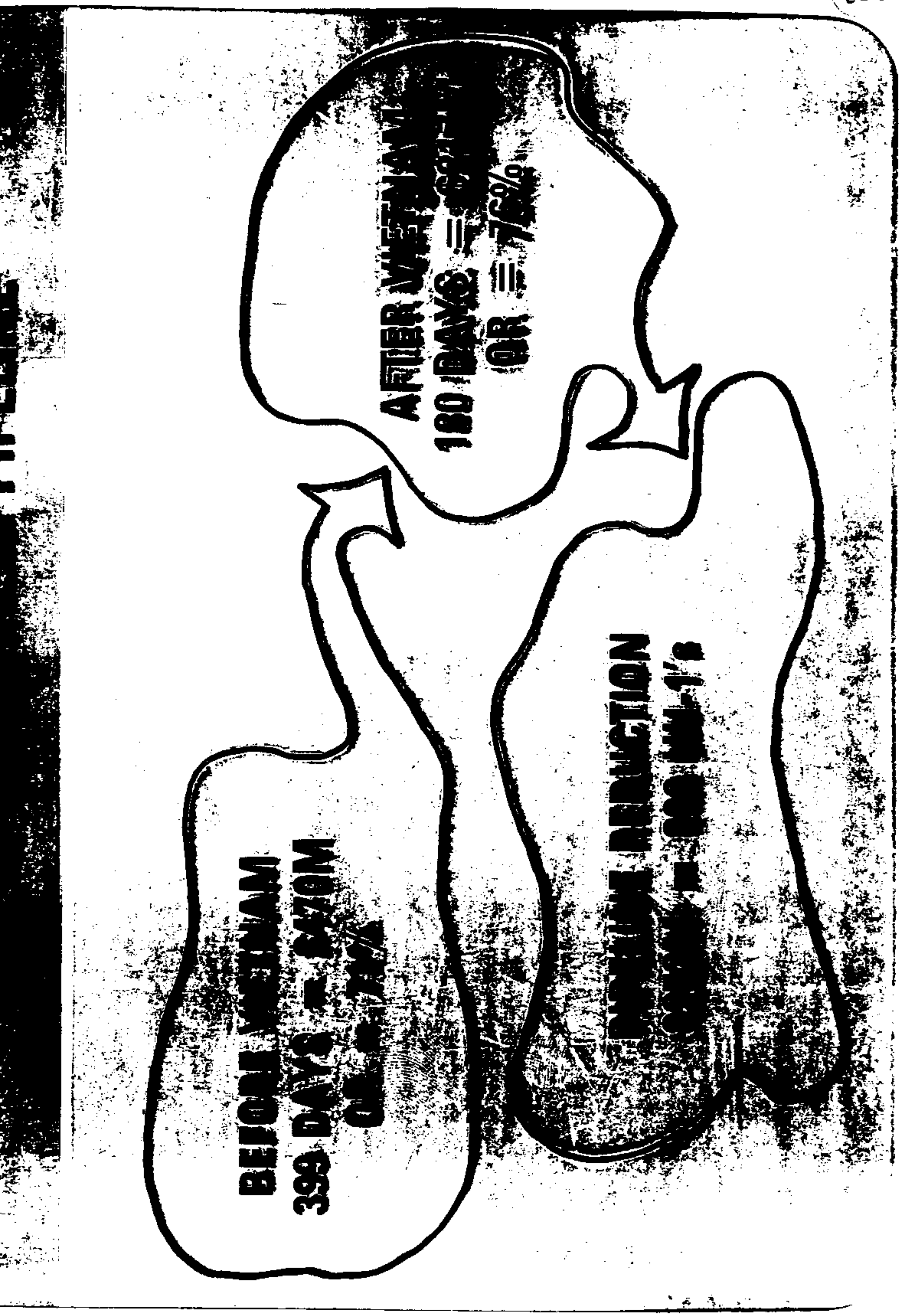
30 days, and all the rest of the engines would be sent back to CONUS for depot repair, overhaul or whatever was needed. As a result of General Abrams' message to General Johnson, I was called in and asked what should we do? I said, "Well, I thought that we needed to flush out the system." He said, "Alright, prepare whatever needs doing and I will sign the message." I multiplied 7 x 16 and came up with 112 engines. I prepared a message for the Chief of Staff's signature which said that, "For T-53 engines you can keep 112 serviceable or unserviceable engines in country that are not installed in aircraft. Any engine above and beyond that number whether serviceable or unserviceable will be sent back to the United States by air." At the same time, we established a 24 hour dedicated truck system that moved as needed between Stratford, Connecticut, where Avco Lycoming made T-53 and T-55 engines, Charlotte, N.C. where they had established an overhaul base, Fort Rucker, Hunter Stewart in Florida and Corpus Christi, Texas. We established a C-141 airlift three times a week to move serviceables and unserviceables. We told theatre what we were doing. General Bob Williams who was then the commander of the First Aviation Brigade also had the 34th Support Command under his command. Whenever an airplane came

in, General Williams had to personally report to General Abrams as to the number of unserviceable engines being retrograded. Inside of a month, we flushed out of Vietnam somewhere in the neighborhood of over 750 engines. The average time engines were being held in country was not 30 days, it was something like 80-90 days. When the people in Vietnam looked at an engine and they couldn't take care of it, they requisitioned the part. Once the 30 days arrived, they would take a look at it and say, "Well, I'm sure in another few days it will come." What had happened was that we had a stock of unserviceable engines in Vietnam that were really holding up the whole system. The dedicated truck was very efficient because it serviced us portal-to-portal. Airlift in CONUS will give you very fast service from point to point, but you have to get it to and from an airstrip and the loading and unloading ramps. So with that system we flushed out about 750 engines. Would you believe that we never had a NORS (Not Operational Ready Supply) at the depot level for an engine once we got those 750 engines back in the supply system. What did that say to us? It said that we had thought that we were doing a terrific job and we weren't. Another thing in spite of the TET offensive is that our readiness rates and we still have

them on a chart, will show that we had the peak in readiness of around 74 percent or 75 percent. We were flying the maximum number of flying hours, something like 45 hours per aircraft worldwide for the total fleet.

INTERVIEWER: I would like to make those statistics a part of this report.

MR CRIBBINS: Yes, I agree. Let me think what else was accomplished at the intermediate level. Another thing we found was that Vietnam was an unusual conflict in the sense that it was conducted in a very confined geographical environment. Accordingly, I am afraid that our logistic units became homesteaders and remained in one place most of the time. I think that the exception was the First Cavalry Division moving from An Khe down into the Iron Triangle. That was a major move for a large operational unit. Essentially, our intermediate level maintenance units stayed put throughout Vietnam. Another thing I think we have to recognize is that the enemy had few tanks and limited mobility. Although, there was lots of mortar and rocket activity, there was no enemy air activity over South Vietnam. Therefore, we had command of the air


AFTER VIETNAM
180 DAYS
OR = 76%
REDUCTION
399 DAYS

and were able to move our helicopters wherever needed. All of these things would have to be considered in the proper context in any future war where we may not have the capability to move indiscriminately. Conversely, it was the sort of war that was analogous to some of the previous guerrilla wars including our own Revolutionary War. We owned pockets and the enemy operated around those pockets. I remember flying into An Khe during a period of heavy fighting on a C-123. We flew at 10,000 feet and then literally cork screwed right into the An Khe runway. If you came in on a glide path, you would get shot down. It was a very unusual war, but I would say that we learned more lessons in aviation because it was the first major helicopter war in history. I do believe we came out of that war being experts on helicopter utilization in a combat environment.

INTERVIEWER: I guess it was General Ridgway, who set the vision for the Army's future in aviation. Essentially he said he wanted "an Army that was hard hitting, streamlined and as much as possible be transportable by air between continents and on the battlefield." His vision came to fruition in Vietnam where we saw the 25th Division move one brigade by air

into Vietnam. Further, as you said earlier there were some 4400 Army aircraft in Vietnam at the height of the war. Coming out of Vietnam, we knew that we were going to have a period of constraints. I believe General Heiser had a vision and he started several initiatives to make sure that we had sound logistics program. More importantly, there was concern about the ability of the industrial base to support Army aviation. I would like to hear your thoughts on those concerns.

MR CRIBBINS: Well, coming out of Vietnam was a traumatic experience for the helicopter industry, but let me talk very briefly about General Heiser. Of the people who have influenced Army logistics, I have got to put General Heiser right up there near the top of the list. He was truly a "dirty hands" logistician. I mean that in the sense of being a logistician who had come up from the very basics of having his hands dirty doing unit level maintenance all the way to become the DCSLOG of the Army. One of the things that he came up with was called "Inventory in Motion," which other people may call stovepiping because it requires intensive management by commodity or weapon system. The concept he envisioned is the very inventory in motion that the Japanese use today on their automotive

production lines. They do not stock, store or issue inventory in large quantities. When a vehicle production line approaches that point where it needs an item, a truck pulls up with that item and it is put on the vehicle. That way, they cut down on inventories. There couldn't be any concept that's better suited for where we are today with the high cost of our inventories and the necessity to cut down on them. Such a program helps to cut down on obsolescence and the cost of buying things that we don't need. In talking about the industrial base where we had some very real problems, there were four major helicopter manufacturers; Bell Helicopter, Boeing Vertol, Hughes Helicopter and Sikorsky. Kaman was making helicopters and still is for the Navy. Right after Vietnam we were faced with a major problem of sustaining an industrial base to support post-Vietnam requirements and enable us to keep folks such as design engineers employed. Those fellows live in what we call the high rent district of salaries. They are not directly in support of the existing fleets, but design future fleets. As a result thereof, I think it was in 1972, I was asked to take a very critical look at what we needed to do to perpetuate a warm base for helicopters designed to go in production and support. That became a major

exercise and project at AMC and AVSCOM under the guidance of a two star general. A couple of things which came out of this was that there wasn't any doubt that the helicopter industry was in trouble. At the height of Vietnam the industry was producing as follows: 15 Chinooks, 115 Hueys, 35 Cobras, and 50 OH-58s per month. With those production rates obviously industry was on what we now call "on a roll". When we came out of Vietnam, we had more aircraft than we needed. We had a large stock of high value components and engines that would not be needed because we had based our stockage of them upon wartime requirements. Wartime flying hours at the height of Vietnam when we clocked 45 hours per aircraft per month, which consisted of a total of 6,000,000 flying hours, was drawn down to 1/4 of that or 1.5 million flying hours almost overnight. So we did not need to procure aircraft nor did we need the components so the whole industrial base was affected. It was decided that the only way we could perpetuate the industrial base was to put these firms in the business of overhauling rather than producing and the firms took advantage of that. Boeing Vertol was a good example because it had gotten to the point where they were below their warm base of sustainment level. What we

did was to induct aircraft in their overhaul line which sustained a warm base. We were not dealing that much with Sikorsky until later in '70s when we bought the Black Hawk, but the other manufacturers were involved early on in our efforts to sustain the industrial base for helicopters. I remember Jim Atkins, President of Bell, told me that 95 percent of Bell's work was for the services at the height of the war and not too long after the war was over, 95 percent of it became commercial. That was a traumatic experience. Lesson learned--I guess one of the things we need to look at very critically is that if we are going to get into an engagement in the future, is to level off to a degree if we can and recognize in advance that we must perpetuate an industrial base for support and development of new systems. One of the things the aviation community found out was that the most critical commodity is people. Once you lose people, you rarely get them back. It takes years to develop skills in aviation. You can make brick and mortar and build a house, but you can't build people.

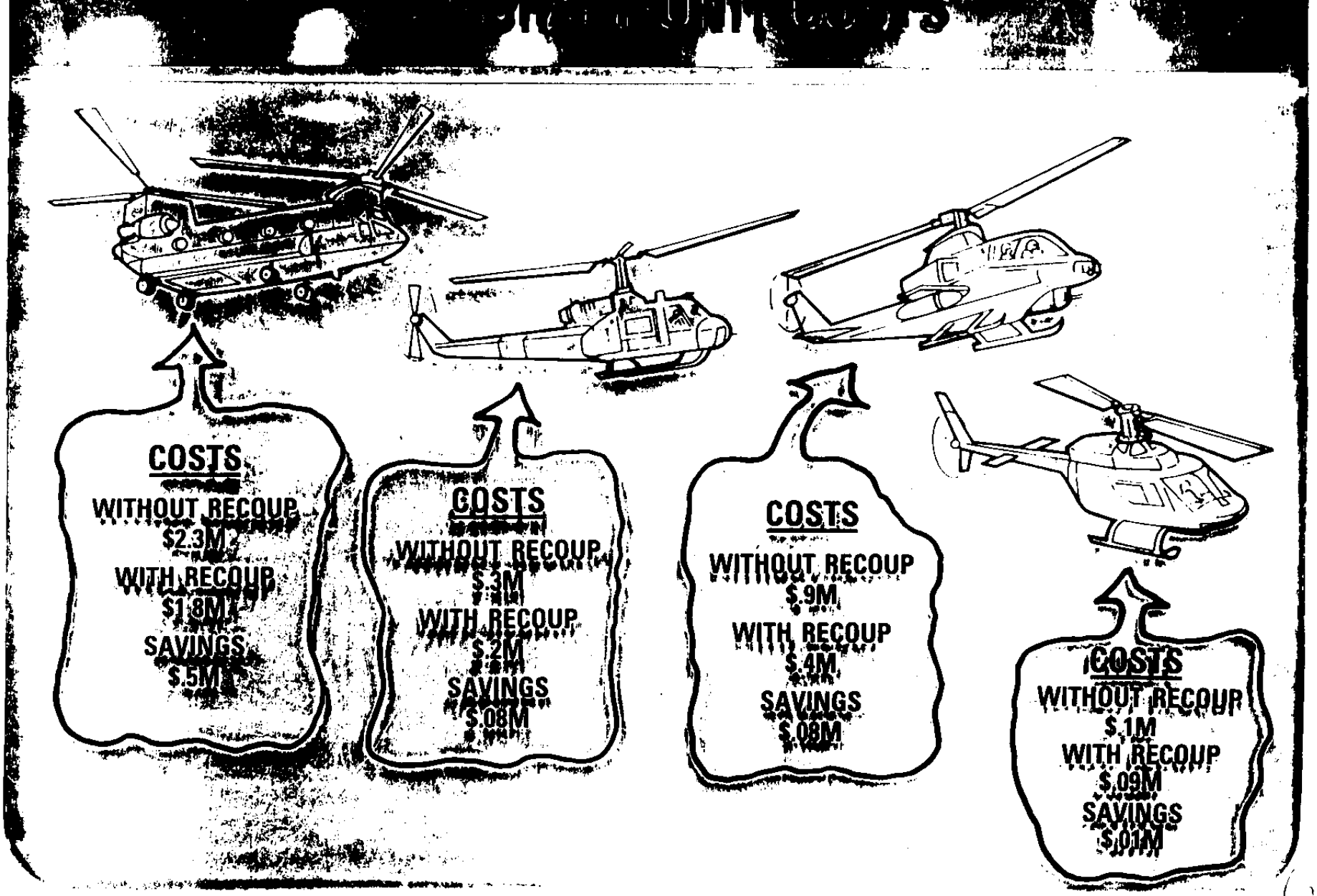
INTERVIEWER: Before we go on, I would like to hear your thoughts on lessons learned at the depot level.

MR CRIBBINS: In CONUS we were running a two horse horse race during Vietnam. Number one was supporting the war in Vietnam and number two supporting the training base at Fort Rucker and one out at Mineral Wells, Texas where we did the primary training for helicopters. At the depot level, we had one major organic facility at Corpus Christi Army Depot. We had a second depot level facility which was more of a job shop operation at the New Cumberland Army Depot geared to support the CH-47. At the beginning of Vietnam, we had the capability for aircraft maintenance at Sharpe Army Depot, in Atlanta and some off-shore depot capability in Europe. By the conclusion of the Vietnam War we had one organic depot facility which was Corpus Christi and some other capabilities for avionics, electronics, armament and mission equipment packages. In other words, Atlanta, Sharpe and Europe were phased down by the end of Vietnam. Later, New Cumberland Army Depot was phased out and we now have one organic aviation facility. I guess the greatest impact of Vietnam was about the time of the TET Offensive when it became evident that if we were going to survive and win the war in Vietnam, we had to have more helicopters. Mr. McNamara initiated a move toward increasing the production of helicopters. This created

a great strain on the whole industrial system. Let me give you some examples. We were producing five Chinooks a month and we went to 15 practically overnight; we were producing 65 Hueys a month and we went to 115 overnight; we were producing 15 Cobras a month and we went to 35 overnight. We went so fast that the critical item became the engine production. For quite a long time, we would take T-53 engines, and of course this exacerbated the engine shortage problems I talked about during the TET Offensive, off the production line at Bell and put them in a Huey. The Huey would be run through the production line, flown to Red River, put in storage, the engine pulled and sent back into the production line so we could keep production ongoing. We had a lot of Hueys stored without engines since they took longer to produce than the aircraft did. As usual, American ingenuity, production and large scale manufacturing capability came through and succeeded. It succeeded beyond anything we believed possible. I don't think we ever gave the industrial base that much credit because there has been so much acrimony about the Vietnam conflict. I think we forget some of the good things that were done in support of Vietnam regardless of the outcome of the Vietnam War. The wonderful things that many

logisticians did in order to make the system work seem to go unnoticed. By escalating the industrial base's production capability, it was tough to phase down after Vietnam. Because that escalation lasted for a relatively short period of time, I think somewhere between 1967 until 1972, the bottom fell out and we wound up with too many aircraft and components. One of the things that I pointed out was the fact that we had more engines, transmissions and other component parts than we knew what to do with. We came up with a project called re-coup. We had nearly $200,000,000 worth of engines and components for which we had no home. When we withdrew from Vietnam, we were still producing helicopters that we had ordered two years before. There was hardly any time to gradually reduce production. Under Project Re-coup, I took a proposal up through the DCSLOG, the Under Secretary of the Army, OSD, to Congress to use APA procurements funds for overhauling engines and components and use them as GFE (Government Furnished Equipment) for new aircraft. It was approved and we have a couple of Presidential Management Awards because the net result was a differential of something like $160,000,000. That was big money in those days. Carolyn has a chart which shows the differential, and you may have the chart,

that shows the differential of the cost per aircraft with Recoup versus the cost without Recoup. The cost was rather significant when you look at the differential of supplying those used engines and the components which had already seen service in Vietnam. Since we couldn't get the necessary OMA funds, we used procurement funds as an investment. There was a certain amount of trepidation in the building concerning our request to use procurement funds to overhaul items. When we got to the Congress, their comment was, "Hey, that's the greatest thing we heard of. Go to it." I think the lesson learned overall was that the same thing was true in World War II where we experienced terrific build-up of 40 or 50,000 aircraft per year and then having to let the bottom drop out of the program. It is necessary to keep our industrial base going. In order to do that, you also have to have in my estimation more contracting for depot level maintenance to sustain manufacturers. We supported three of them with overhaul programs for a considerable period of time after Vietnam. The only depot capability we have ever had for the OV 1 and RV 1 has been down at Stewart, Florida. We have maintained them over the years with overhaul programs when we couldn't sustain them with procurement programs.


COSTS
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[End Tape C-220 Side 1]

[Begin Tape C-224, Side 1]

INTERVIEWER: Sir, I don't wish to belabor a point, but do you see the KD Team concept becoming a part of the Army of Excellence TO&Es?

MR. CRIBBINS: I certainly do. I do believe that the KD Team concept could play a very critical role in our overall concept of lightening the Army. The Light ID certainly has to be the way to go and that is the way we're going. The question is, how light is light especially when you are talking about sustaining. When we had the KD teams many years ago, we used them to supplement organizational maintenance in units that had aircraft. I'll use the H-21 as an example. In the early days of Vietnam, we had the capability to operate and keep those aircraft in the air. We didn't have the capability to maintain them on the ground. We had to supplement the H-21 units. For 20 aircraft assigned to an H-21 lift unit TO&E, we supplemented it with a KD team composed of 56 people. The 56 people were by and large wrench turners backed up by some supply people

and technical inspectors. We had a hard core of weapons system maintainers keeping the aircraft safe, reliable and maintainable. The difference between units operating with those KD teams and those without were like night and day. The maintainers in the H-21 Companies without KD Teams were in substance service people. In Army aviation language, they serviced, did not maintain; they washed windshields, filled gas tanks and kicked tires. The KD team gave them the wherewithal to maintain and sustain operations with a high degree of readiness that could not have been achieved without them. When the 1st Cavalry Division was ready to deploy to Vietnam, there was a major exercise in the building which looked at the maintenance capabilities of the division to support 400 helicopters and some fixed wing aircraft. There was a Mohawk detachment assigned to the 1st Cav. We, being the logisticians, believed that we were short-changed on maintainers in the 1st Cavalry Division. We believed that when the division deployed to Vietnam, we were not going to be able to keep its aircraft operating the way they were capable of doing because of shortfalls in people and maintenance capability. The 1st Cav at that time was assigned four DS companies for support of 19 companies and detachments that had

aircraft assigned to them. Organizational maintenance in those units had service personnel rather than true maintainers. I guess it was in 1969 when the Chief and the Vice Chief of Staff were convinced that our KD team concept with its separate units had proved itself in Vietnam. Accordingly, aviation maintenance in the 1st Cav Division was reorganized under the KD Team concept. When we reorganized, we phased out two of the four direct support companies. By that time, we had removed the administrative spaces from the KD teams and integrated the maintenance capability into the operational units. We used the spaces to integrate about 70 percent of what was known as direct support maintenance into the operational units and gave the 1st Cav Division AVUM which we had already installed in our separate operational aviation units in Vietnam. The real difference turned out to be an increase in readiness by some 20 percent for aircraft per month. In other words, we had been running anywhere from a 55 to 60 percent operational readiness rate in the 1st Cav's aircraft. Subsequent to the reorganization, readiness rates increased to roughly 75 to 80 percent depending upon the aircraft system. Importantly, the flying hours for the 1st Cav increased by some 25 flying hours per aircraft per month across the board.

Accordingly, the 101st Airborne Division now Air Assault, was organized the way the 1st Cavalry Division was and is organized that way today. So, the lesson learned is that the KD team which we eventually integrated into the 1st Cav still exists in the 101st and certainly showed us the way to go for Army aviation. I am firmly convinced that the KD team concept could make a great deal of difference in both the Army of Excellence and a Light Infantry Division. In my view, the KD teams could be composed of green suiters, DACs, contractors or a combination of all the above. I think that is very important because the green suiters and DACs are not readily available nor are the spaces for those personnel. I see no reason why we couldn't use contractors for that kind of support. We might want to supplement them with some green suit or DAC capability if we felt that was needed.

INTERVIEWER: If we were to take the KD team concept a step further, I believe there is consideration of going to two levels of maintenance. How would the KD teams fit into this maintenance concept?

Mr. CRIBBINS: Two levels of maintenance, very simplistically is the wherewithal to provide enough maintenance capability at the operational unit or user level to do the on equipment maintenance to keep an aircraft safe, reliable and maintainable over a period of time. With the KD team concept, let me say that once we have that sort of capability in an operational unit, then comes the question of what do you need above and beyond that? I would suggest that what you need is the capability to do all the rest that is needed. Hence the two levels of maintenance which says that if you can maintain and sustain your aircraft safely and reliably at the operational level, then the next level could very well be depot level. I think that we must look very carefully at what we are calling the depot level. The depot level could be anything that needs repairing over and above the operational level to include the intermediate level of maintenance as it is known today. This means, however, that we have to relook our concepts of depots being in CONUS. In my view, depot level capability does not out of necessity have to be an industrial base. It does have to have the capability to do anything over and above user level. A depot level could very easily be off shore and could be relatively contiguous to the area of

operations so there isn't any long pipeline. At depot level, maintenance could be done incrementally with a forward echelon which would accomplish say about 75 percent of the things that needed doing with the other 25 percent going back to CONUS. I think the Air Force had a pretty good system going in what was called the Queen Bee concept for their aircraft engines. Under the Queen Bee concept which would be analogous to what I am talking about, there was a Queen Bee unit off shore through which all aircraft engines were processed once they were removed from an aircraft. That Queen Bee unit actually turned around 80 percent of the engines that came through it and sent them right back to the user. The other 20 percent went back to CONUS. In my view, that Queen Bee concept would really be the off shore depot turning around 75 to 80 percent of everything that came its way and the remainder of the depot support being back in CONUS. There may be the question of whether you are kidding yourself and calling an off shore depot an intermediate level? No, because I would say that the depot, in my view, would belong to the Army Materiel Command and not to the theater command.

INTERVIEWER: Could you visualize under an AMC depot maintenance umbrella a combination of green suit, civilian and contract personnel? In other words, a composite unit organized along the Queen Bee concept that was employed by the Air Force.

Mr. CRIBBINS: Right. There's really a precursor to this because I understand last year when General Otis ran into difficulty doing his Theater Army Repair Programs in Europe, General Thompson, then AMC Commander, agreed that he would pick up responsibility for a large part of the repair program right in theater. That also includes the ERF's (Equipment Redistribution Facilities) if I remember correctly. So, the precursor is there for doing this sort of thing. It is a case of how you do it. Now a word of caution; that is, when we are talking about the unit being self sufficient, we are talking about the unit having a very comprehensive diagnostic and prognostic capability so that the unnecessary removals and returns are reduced to the absolute minimum. Also, we then must have the capability to have components, engines and other major reparables readily available for replacement in operational units. Then there is a need for diagnosticians who can be parts changers rather

than repairers in operational units. Therefore, I would say that we need an intermediate level of supply. I will differentiate this supply from the second level of maintenance by saying that we can put in enough diagnostic and prognostic capability at the intermediate level of supply to preclude the unnecessary return of components to the depot. The operational unit with its high degree of mobility must not, of necessity, be encumbered with large pieces of diagnostic equipment. However, we are now getting down to the point where some of this equipment is in suitcase form.

INTERVIEWER: You mentioned supply and I believe that we should tie in supply with transportation. If we are going to have the kind of system you are proposing, it seems that air lines of communication would be critical. The tonnages that have to be moved are going to be significantly higher. Your thoughts on integrating supply, maintenance and transportation in this kind of operation.

Mr. CRIBBINS: I would suggest that looking at the cost of supply pipelines nowadays, it is absolutely essential that we find a way to do what General Heiser

called "Inventory in Motion." That is, avoid having a stagnant pile of inventory any place where we can use transportation to move high value components and parts needed for immediate readiness. I think that over my many years, I can go back to Project MASS (Modern Army Supply System) in Europe in the mid '50's. It was a forerunner to the DSS (Direct Support System.) What this project set out to accomplish was supporting operational units in Europe directly with parts from the depots in CONUS. I worked on quite a few of the policy papers when I was in the Army Ordnance Depot in Mannheim. The real difficulty in the project was a combination of three things. (1) We didn't have a true air line of communication. (2) Communications were very limited compared to what we have now; and (3) the capability of processing requisitions and doing things with computers now, we did not possess then. The most sophisticated things we had were IBM key punch machines. We had a manual system supplemented by some mechanical capability. Project MASS fell by the wayside because we didn't have the resources that exist today. I think that with the Global Positioning Systems (GPS) we will be able to tell exactly where units are at any time. We should be in a much better shape of implementing direct supply support system in

wartime. One of the hang-ups with the direct supply support system was the fact that once the requisition was forwarded to CONUS and the part was put in the system, no matter how fast it was, came the big question "Where is the requisitioner?" Where do I deliver the item? With a rapidly moving army in combat, that might create difficulties which could be overcome by the use of the GPS which could be able to tell you where the units are located.

INTERVIEWER: Let's talk for a minute about modernization. In the decade of the '80's, we fielded the Black Hawk, the Apache, we continued to modernize the CH-47 and we've initiated the AHIP and the LHX programs. The latter two programs have come under close scrutiny within the defense establishment and in Congress. Yet both programs are still alive. Are both of these programs necessary in your estimation?

Mr. CRIBBINS: The LHX at the moment is alive and kicking but not quite so strongly as before since the utility version of the LHX has been deleted from the program. The program is in a state of flux, so please understand that what I say now could be changed later today or tomorrow. What we are looking at right now is

a light armed reconnaissance helicopter that will be an attack bird as well as an armed reconnaissance scout. We are talking about a helicopter in the 7,000 or 7,500 range of max gross weight. We are talking about a very well armed bird that will be less expensive than the original version of the LHX which kept growing to the point where it became so expensive that it was perceived as being unaffordable. The AHIP has turned out to be an absolutely super aircraft. I was on the Source Selection Advisory Council for the AHIP and when we began the source selection process, I do believe that of the two competitors-one being the OH-58D which is the current AHIP and the other being the Hughes helicopter called the MH-500, the latter would win. As it turned out, the OH-58D was such a super performer that we didn't have any difficulty in selecting it. Also, the OH-58D has the great advantage of the mast mounted sight which will help keep it from easily being targeted by the enemy. I have become convinced over the years that the way to make a helicopter survivable in combat is to avoid or preclude it from being targeted by enemy weapons. The important thing is to avoid getting hit in the first place. When you look at a helicopter and its necessity for visibility and lightness, the very nature of the helicopter leads me

to the analogy that hardening the helicopter against weapons such as missiles, cannons and heavy caliber weapons is like hardening a telephone booth. When we selected the Apache for example, one of the real drivers in selecting the Hughes bird which became the AH-64 was its greater survivability because of its high degree of flexibility and very rapid vertical rate of climb. In other words, we were selecting the aircraft that was less likely to get hit. The bottom line is we need both the LHX and the OH-58D.

INTERVIEWER: That leads me to my next question that concerns battlefield sustainment and ties into survivability. In one of your many speeches, you talked of your concern about getting the logistician involved early in the design of new systems. If the logistician is involved early in the life cycle management process he can influence that ability to sustain an end item or system once it is fielded.

Mr. CRIBBINS: I guess I would put it this way. I think the logistician not only has to be involved in the early design, he has to be involved in the basic requirement because that is where the design is derived. As I see it, the logistician needs to be

consulted and be able to influence the requirement to the degree that the mission and threat are fully recognized as well as the needs of the user and operator. Then the logistician can say, whether he can support it. With the logistician in that process, when the weapons system or whatever is being designed, he becomes an integral part of the design system to make sure that he influences the design so that it is not only supportable, but affordable. In other words, the words doable and affordable are part of a lexicon that we now must live with if we are going to have a capable army. I get very concerned about logisticians sitting back and letting the user come on line emphasizing performance and mission requirements and the logistician subsequently tries to figure out how he is going to support that weapons system once it is fielded. As I say, if the logistician has part of the action from the time that the requirement is developed all the way through, then he has a good opportunity to make sure that he is delivering the very best product that can be delivered in support of the very basic requirements. Please understand, I am not, repeat I am not, challenging the requirements. What I am challenging is our capability of meeting the requirement reasonably, affordably and in a timely

manner. For instance, when the V-22 first came on board as a potential system we were part of it at that time. In fact, we were the major part of the V-22 program. We established the fact that the logistician would be a deputy to the Project Manager and be on the same level as the Deputy for Design and Development and would have as much to say about how that system was designed, developed and tested as did the engineer.

INTERVIEWER: Did the logistician get the same status in other commodity areas such as in armor, automotive or missile systems, as was given for aviation systems?

Mr. CRIBBINS: I would say that for any system whether it is a tank, whether it is a missile, or a piece of electronic gear, if a logistician isn't there early on, I would suggest that we are looking for trouble somewhere down the line. Sooner or later, that system either will be nonsupportable or nonaffordable.
[End Tape C-224, Side 1]

[Begin Tape C-224, Side 2]
INTERVIEWER: You wanted to discuss more about supply and the costs of maintaining large inventories.

Mr. CRIBBINS: Certainly one of our most significant challenges nowadays is the cost of supplies. I was just working on some statistics. Since 1958, the aircraft fleet has grown from 5,000 to 9,000 in round figures. The value of that aircraft fleet has grown from $600 million to $15 billion; a factor of 25. The value of the spare parts, repair parts, and I am talking about the wholesale level because I haven't been able to sort out how much more is below that level, has grown in the same time frame from $250 million in 1958 to $4 billion in 1988 or a factor of 16. When I look at those numbers, I've got to realize that aviation is an integral, but an awfully expensive part of the Army. We've got to do everything possible to reduce those costs. Another thing that drives the Army's budget is the operations and maintenance cost which constitute one-third of the total budget. Big time. That is, one third of $79 billion goes into operations and support costs. To the degree that aircraft and aviation have become so expensive, I would certainly say that it is essential that we intensively manage all of these systems that comprise the aviation fleet. Here again, I will say something that I have said before that I resent and resist the idea that we have a "stovepipe" because we manage these items all

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ACFT 12,000

12,000

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4,000

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INVENTORY

$3.0B

FY 70 INV X 2.1
VALUE X5.0

8966 8979 9041

$5.1B $5.9B $15.1B

FY 87 INV X 1.6
VALUE X 25.2

FY60
INV 5,500
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65 66 68 70 72 74 76 78 80 82 84 86 87

FISCAL YEAR

MAJ HINDS 70497
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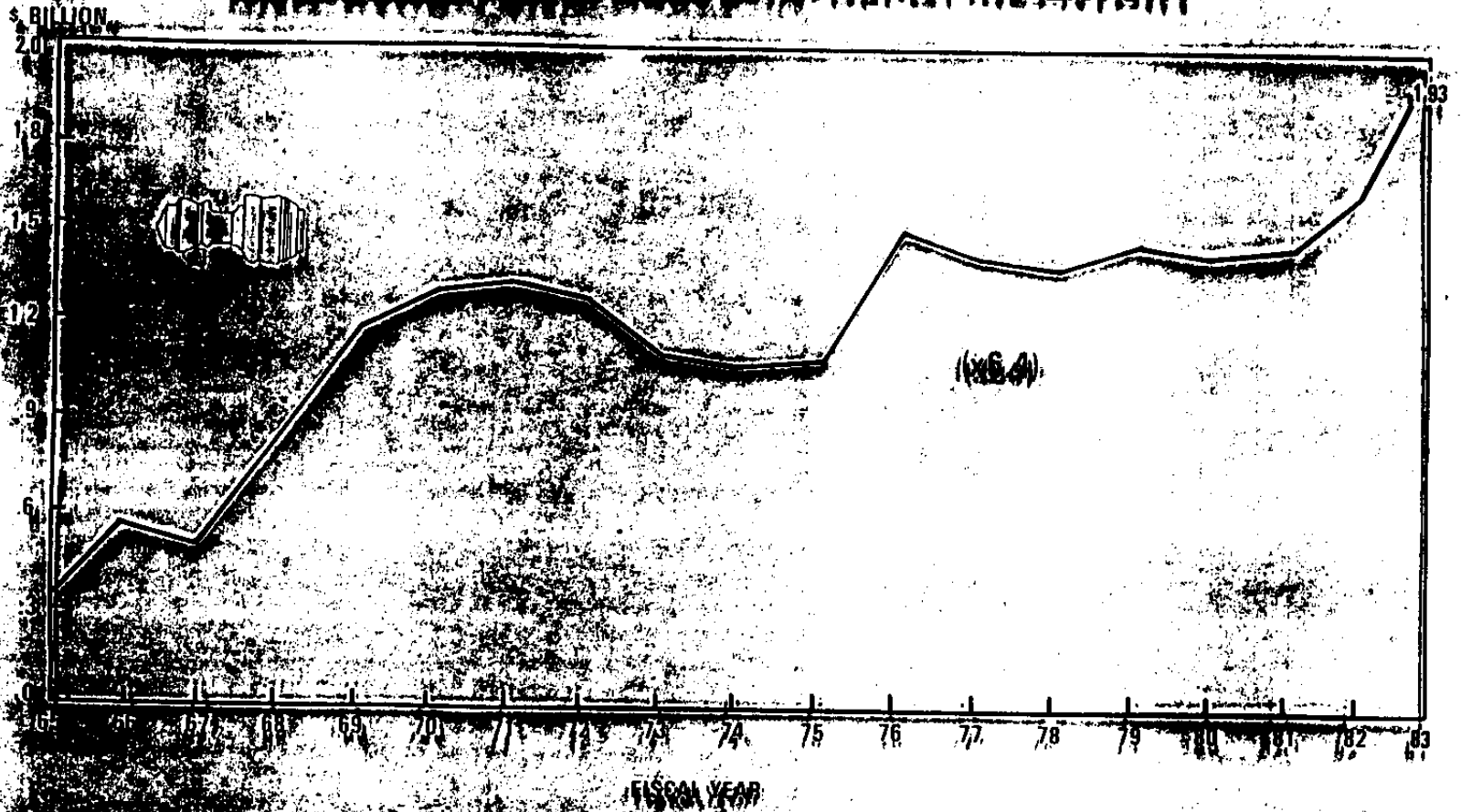
232-A

VALUE OF AIRCRAFT APA SECONDARY AND STOCK FUND ASSETS IN DEPOT INVENTORY



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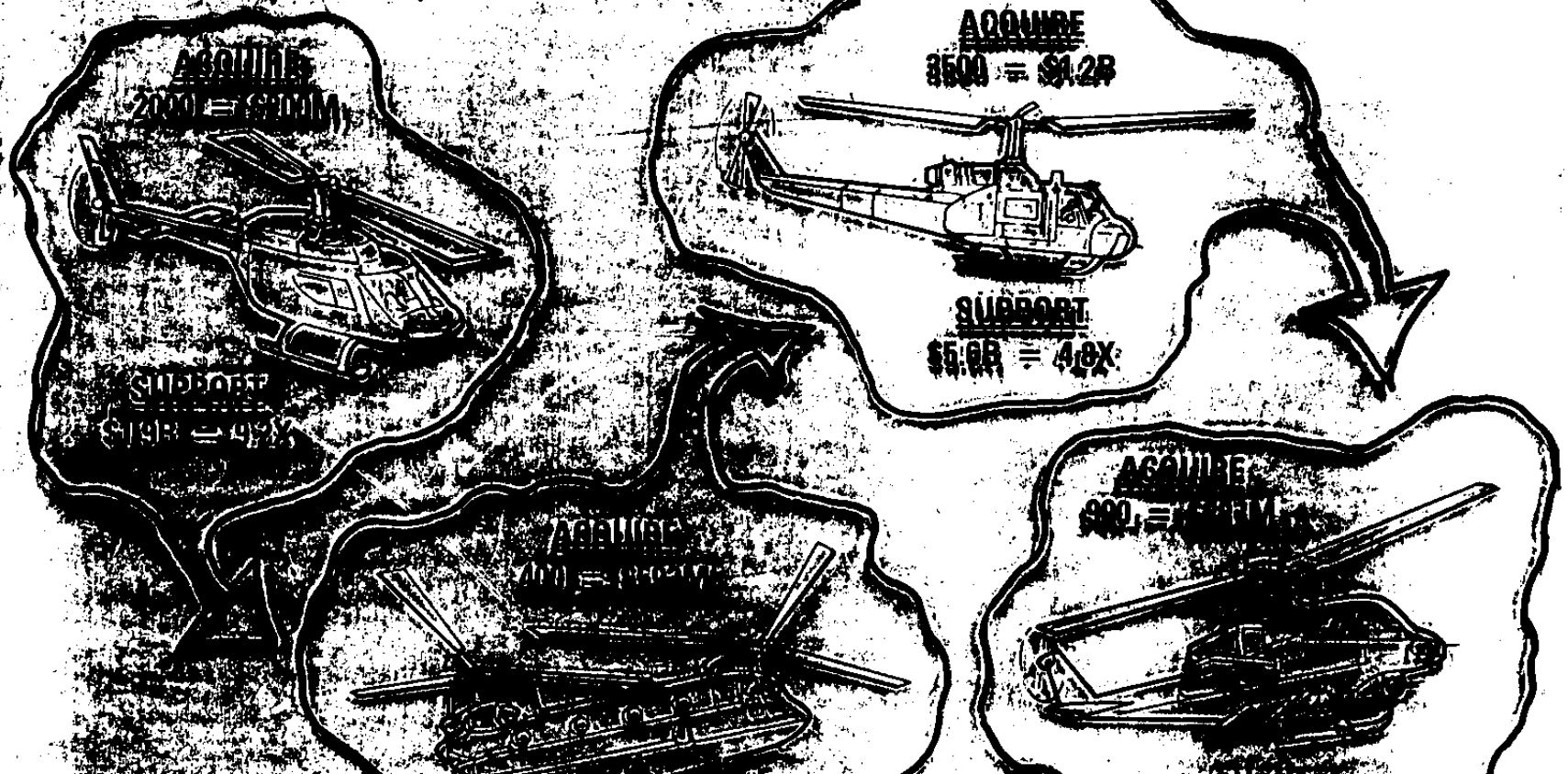
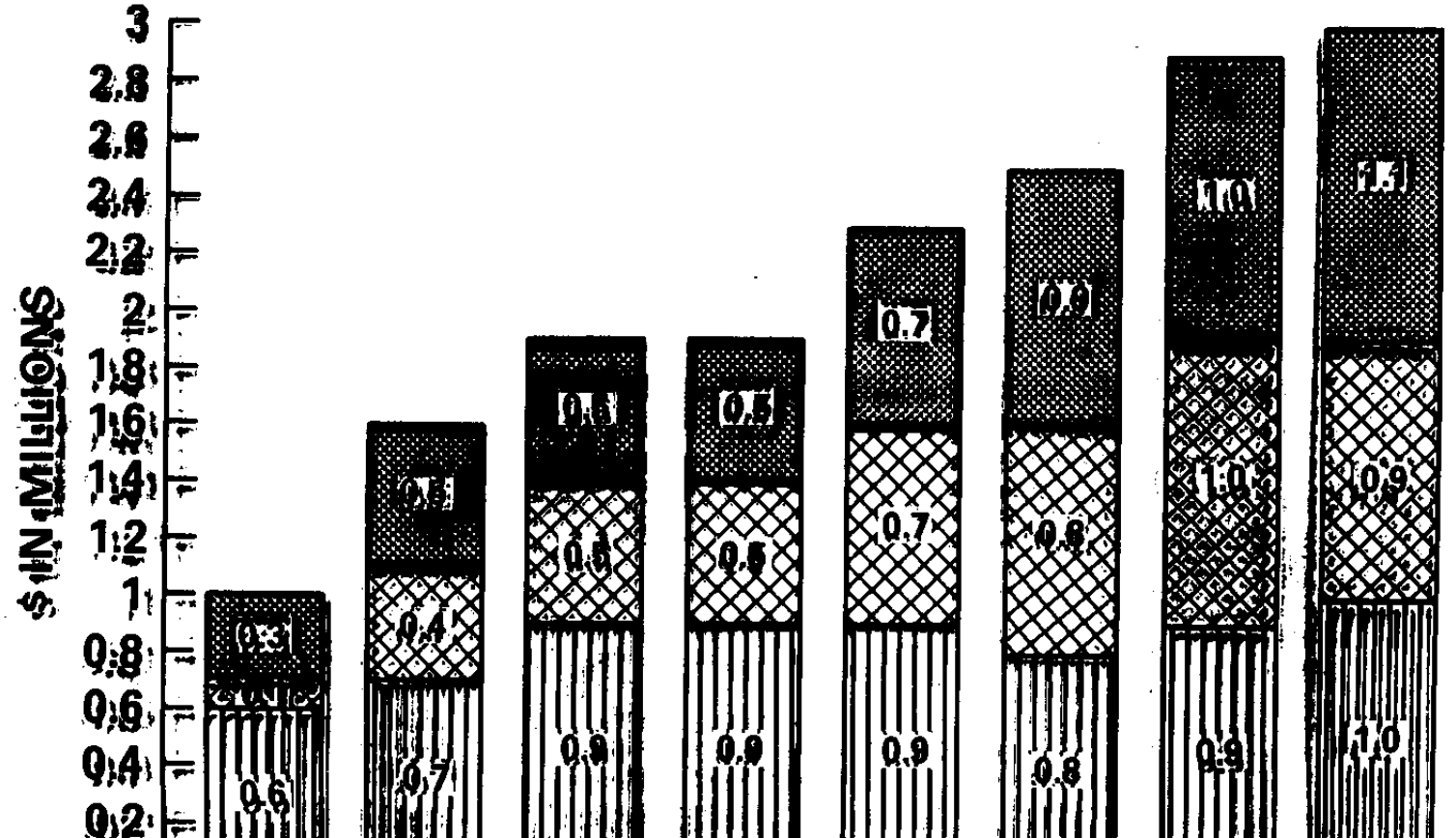


FLYING HOUR COST



the way down to the users. It is weapon systems management or intensive management of high value assets. The perception is that the aviation guys are going off on their own because they manage these items all the way down to user. This is an ill-conceived perception. We manage them because they are so costly. If there is anything that I would leave with you in this oral history is the fact that we have got to recognize the necessity for keeping the supply pipelines down to an absolute minimum. I know I talked earlier about some of the pipelines in Vietnam and how we used air lines of communication and such. The fact that we know, or should know if we don't, where each one of those high value components are -- by serial number, like a person by name, is important, components by line number, by serial number, where they are, their condition whether or not they are installed, whether they are serviceable or unserviceable, whether they are intransit or sitting someplace waiting to be moved is equally important. I think that if we don't know those things, we cannot chase those items down and there is no way that we can afford the program in order to support the defense of this country.

INTERVIEWER: Many logisticians contend that you can't manage the inventory unless you know two key things; the unit that an item is going to and where that item is at any time during its movement from origin to destination.

Mr. CRIBBINS: That origin to destination has to be just as flexible laterally as it is vertically. That is something that we do not do well at all. In other words, one unit can have an item so critical and another unit relatively close by may need the item and not know that the item is available. For those very high value items, I think the way to go is to keep them centrally located so that you can support many units with them. I cannot see the potential of placing the ASL or PLL of some of these high value expensive items in units rather than putting them on a theater-type stockage list where they can support many units throughout the theater.

INTERVIEWER: To paraphrase General Gavin who once said, "He who plans to fight the last war, will never win the next one." What you are saying if I understand correctly, that there were a lot of lessons learned from Vietnam and we should take them and project them

forward since we will not have an enormous amount of resources to prepare us for every contingency. If we have the capacity to get those things where they are needed, and turn that loop around a lot sooner, then we certainly can influence the outcome of battles or campaigns.

Mr. CRIBBINS: You are exactly right. For example, I think I told you that when we went into Vietnam we thought we needed a 13 month engine pipeline. When we came out of Vietnam, we needed a six month pipeline. I am firmly convinced right now that we should be looking at a two or three month pipeline with immediate delivery by air and just take the lessons learned and project them into the future because in Vietnam, we were paying less than $100,000 for the majority of the engines we had. Now we are paying $500,000 for the majority of the aircraft engines in the inventory. All that I can say is that we had better pay five times more attention or we won't have them.

INTERVIEWER: Some of the critics have said that the LHX is just too expensive. Because of the costs of LHX, I guess we will have to cut back on the number of aircraft being fielded. When and if we field such an

expensive aircraft, do you think we should train enlisted pilots to fly them? I didn't mean to wrap these two together, but first, your thoughts on the costs associated with developing and fielding the LHX and then the issues of enlisted pilots.

Mr. CRIBBINS: We've been talking right along about the affordability of support. The affordability of support is obviously oriented also to the affordability of the system. There isn't any doubt that during this time of budget deficits the LHXs has been viewed as too costly a program that would take too much of the Army and the Department of Defense's total obligation authority. But, I am not sure that the LHX is as costly as it is viewed. Here, I don't think it is so much a question of what the LHX cost as much as a question of the affordability of the LHX program. When we are talking of some $60 billion for the total program while we are faced with huge budget deficits, programs such as the LHX are viewed as being unaffordable. The aircraft is expected to do the job that needs doing. It may be very cost effective also. We expect to have a composite aircraft with a mission equipment package that will do many, many things that the current systems will not do. It will be highly survivable on the

battlefield and the attack version will give us a light bird that could very well replace many of the anti-tank capabilities right now. Interestingly, I noted in the Washington Post yesterday, that Mr. Ambrose, the Under Secretary of Army, commented that there is a good possibility that the tank itself may become a thing of the past and may not be the most effective tank killer of the future. That is still conceptual and subject to a great deal of debate plus a great deal of study. I think there isn't any doubt about it that the tank, a 67 ton vehicle does create some problems. Whatever the tank killer of the future will be, whether it is an LHX light attack helicopter, Apache or some other device, it must be survivable on the battlefield. Now, that is a rather long winded answer to your specific question about the LHX, but as we talk this morning on the 12th of February, 1988, the LHX program envisions a light attack and an armed reconnaissance scout helicopter. Since we are changing some of our views, rather radically on this program, it is a bit inappropriate to be more specific at this time.

INTERVIEWER: I appreciate your candor, Sir. You did raise a question before we get on to the enlisted pilot issue and that has to do with Under Secretary Ambrose's

comments in the Washington Post yesterday. The Air Force pilots, I've heard, are concerned about the threat of being replaced by remotely piloted vehicles. (RPVs) Do Army pilots share this concern?

MR. CRIBBINS: I didn't say this earlier, but a lot of Mr. Ambrose' interview with Mr. George Wilson, of the Washington Post, centered on what Mr. Ambrose believed to be the way of the future which was to avoid getting people killed on the battlefield through the use of robotics and such. Obviously, RPV is one way of doing that. I was on the original source selection for the Aquilla which was the RPV that the Army placed a great deal of stock in because we thought that it was the way to go. Unfortunately, the RPV has turned out to be another one of those programs that did not survive. It is evidently now being dropped out of the Army programs on the basis of affordability and I guess on the basis of complexity. I would think that on the kind of Army battlefield where the infantryman still has to gain an advantage, the RPV concept or unmanned aerial vehicle (UAV) has to be something that we need to take full advantage of to keep our people from becoming what in substance will be Kamikaze pilots on a highly lethal battlefield. I am saying let us take a critical look at

RPV and not give it up on the basis that the Aquilla was not successful. There isn't any doubt that remotely piloted vehicles and robotics are the way of the future. We need to push the technical state of the art to get there as soon as we can.

INTERVIEWER: I would like to hear your thoughts on the Army's consideration of training enlisted pilots.

MR. CRIBBINS: This is one of those questions that if you ask 24 people, you get 24 views. Mine is one of the 24. I would view it this way. I have given you some statistics to talk about aircraft costs rising by a factor of 25 because of the highly technical capability and complexity of these aircraft. One thing I didn't say, which is very true of many of our new aircraft, especially the attack and surveillance aircraft, is that the mission equipment packages in these aircraft far exceed the cost of the aircraft itself. So, I would summarize very quickly my feeling about the enlisted pilots. If the Army is willing to go out and spend $15 million for an Apache, and four or five million dollars for any other aircraft that we are buying, then I firmly believe that the Army needs to face up to the fact that it needs to have pilots who

are the very best that it can get. I am not downgrading the potential of enlisted pilots. In my view, it would be possible to train enlisted pilots to fly these aircraft. Then comes the big question once you have trained enlisted pilots-how in the world are you going to keep them unless you make them either chief warrant officers or commissioned officers? So, what I envision is an enlisted man who is so expensive to train and becomes so qualified that he rapidly goes somewhere else to find a career rather than remain an enlisted man. Right now, the Air Force and the Navy have a horrendous job of keeping their commissioned officers in the service because of demands from the commercial market where they can earn a better living. How in the world could we retain enlisted pilots as such when the other services can't retain commissioned officers because we can't pay them enough?

INTERVIEWER: I have to agree, but I think that the Army's senior leadership is looking for measures to reduce the officer strength. I guess this is one of the initiatives that may be used to draw down the officer corps.

MR. CRIBBINS: This initiative keeps raising its head constantly. I can well understand what the problem is. We do get a reduction in officers strength and also I think that part of the problem lies in the basic concept that we have too many officers per enlisted. Here again, go back to your earlier statement about "He who looks at the last war is certainly going to lose the next one." Some of the people in Congress and elsewhere are comparing the numbers of officers to enlisted men in today's Army, Air Force, Navy and Marine Corps to what went on in the past or compared with the USSR or other armies. May I suggest that with the technical competency required to be on the next battlefield, that using such ratios of officers to enlisted is an invidious comparison and really needs a relook. We in the Army have to suffer from this. The leadership of the Army is forced into the position at looking toward enlisted crews for its aircraft just to cope with the fact that we arbitrarily get told to reduce a certain number of officers in order to bring down the ratios of officers to enlisted men. I think that what is not understood is that with today's highly technical Army, we have arrived at the same place that the Air Force and the Navy arrived years ago. That is, we have equipment that is as technically complex in the

Army as it is in any of the other services. Please, I hope I am not misunderstood when I say this, because I know that it is always and still is the Army's position, with which I do not argue, the Army equips men, but the other services man equipment. May I just suggest one thing? I wish that I could somehow get this over better. The man on the battlefield is going to be a casualty without highly technical equipment. We must be able to equip men which is the very basic tenant of the Army and we also must be able to man equipment.

INTERVIEWER: Since we are discussing "the man", let's talk about the people in the aviation logistics business. Several years ago, the Aviation Branch was established. I believe at that time there was a great deal of concern particularly from the aviation logistics community as to whether or not the officers who were previously part of the Transportation Corps were going to survive in the aviation business. In your view, has the transition worked well for the aviation logistician?

MR. CRIBBINS: At the moment, the answer is no. We are very concerned about that. There is a major study

ongoing right now which is headed by Brigadier General Don Williamson, one of the alumnus of this office. He is Deputy Commander of AVSCOM. It is an unusual study. It is a study for which the DA DCSLOG is the proponent. It is a TRADOC study done by a AMC General but it cuts across all MACOMs. Don Williamson is a terrific guy and one of the finest young general officers in the Army. Right now, two of the major issues in that study are what are we going to do with the 15 Tango or Delta aviation logistics officers, whichever they are called at the moment, and who is going to be proponent for aviation logistics? The question of proponency lies between the Logistics Center and Aviation Center. The question of career potential is-where do these people have a potential? Do they have potential with other specialties in the logistics field such as Specialty Code 91, (Maintenance), 92 (Supply) since they are logisticians or do they now have an additional specialty in aviation such as a 15 Alpha or combat arms aviator or all the above? That also could be a possible solution while it may be viewed by others as giving them an unfair advantage. We have had six generals out of this small office compared to others in the building and just about every project manager for aviation systems. Many of these people have even

commanded combat arms units. Since they are basically aviators and aviation is a member of the combined arms team, I see no reason why a person who is an aviation logistician could not command a combat arms unit if he is adequately trained for it and given the opportunity.

INTERVIEWER: There is something else that you are involved in is called the LOGAMP. I believe that is the Logistic and Acquisition Management Program for Civilians. What role do you play in this program?

MR. CRIBBINS: I had this card which I prepared and I pulled it out so it is appropriate because LOGAMP, Logistic and Acquisition Management Program was one of the things I wanted to discuss. I wear two hats in the building for the DCSLOG. I am one of two general officer-level individuals in ODCSLOG who reports directly to the DCSLOG. Of course, the DCSLOG has an exec who's a promotable colonel that reports directly. In one capacity, I am a Special Assistant to the DCSLOG. I will talk about a couple of things that I do. I hope this doesn't sound self-serving, but it happens that I've been here for a long time. I have had the advantage of being a combat arms soldier and a logistician in the field for many years. Having spent

almost 22 years out of a career going on 48 years in the Washington area and in the Pentagon, I guess that it's the institutional memory, which in my case I not only know where the bodies are buried, but in most cases I know who the undertakers were. I act as the DCSLOG's eyes and his ears since some of the things that he is very interested in he does not have the time to pursue to the degree that he would like to. I would emphasize something, and this has been true of every DCSLOG and especially true of General Ross with whom I am working right now, I act as his eyes and ears with immediate feedback to him. He is the one responsible and he does not divest himself of any of that responsibility. In the capacity of Special Assistant, I will talk first of the Logistics and Acquisition Management Program for civilians. In looking at ODCSLOG over the years, we are in some ways unusual in our mix of military versus civilians. We have in ODCSLOG about one civilian for every military or vice versa. This is great for continuity and balance, but there are potential problems only in the sense of the drive toward the civilian continuity and what a civilian does versus what a soldier does. As recently as yesterday morning in talking to new members of ODCSLOG at an orientation, I suggested to the military

to please be understanding of the civilian work force here. "As you come in here for three to four years, you are heading out and up and you know you are only going to be here three or four years. You can do all sorts of things like working long hours every day pursuing many of the things you know you want to do while you are here. That is great. I would certainly encourage it but when you are putting in these 14, 16, 18 hour days, and figure that this is all part of the business of a military career, remember a couple of very basic things. After 20 years, you can retire. You will be in this building not more than four years. Your civilian counterpart who is just as responsive as you and just as responsible as you are, probably in equivalent grade, cannot retire in 20 years. They can only retire at age 55 with something like 30 years if they want to get full benefits. In that 20 to 30 years that they will be living here in this building, if they put in 14 or 16 hour days on a continuing basis, they will certainly not have much of a home life or any other life. Please be understanding of one another. You civilians, understand this. When that officer leaves here, he may go on a short tour without his family. If there is a war, he is going to be out there fighting the war with all the hazards that go with it.

He is going to be subjected to transfers at a moments notice any place; something that doesn't happen to you. He must be completely mobile. We have a saying in the military, "Tell your wife, don't hang the curtains honey because the moment you do I am going to get orders." I said, "Now be understanding on both sides of this." I think this is very important. As a result of looking at some of this, one of the things that I really felt I needed to do was to make the civilians more competitive with the military on a one for one basis. A good part of the problem with the civilian programs is that the civilians really had a telescopic career field. A supply person remained a supply person, a maintenance person remained a maintenance person and the transporter stayed a transporter. When these people work in the Pentagon with their military counterparts who are broadly trained across the board, they are not competitive with them. They should have been trained from a view point of being responsive to the needs of this wonderful business of logistics and of continuity. For example, civilians working in maintenance could be given an opportunity to learn supply. Those in supply could learn transportation and so on. Back about six years ago, we took a look at it and put together a program. I was the proponent for

the program that was called CAPSTONE. I had Mr. Bill Henne, who was the Deputy at LEA in New Cumberland, head up a working group. In CAPSTONE, we looked at supply, maintenance and transportation with the idea of multi-functional training for civilians. By the time we had finished the study some four years ago, AMC was concurrently looking at taking the military acquisition management program for military and making a program for civilians. We got together with AMC and developed a program which we now call the Logistics and Acquisition Management Program (LOGAMP).
[End Tape C-224, Side 2]

[Begin Tape C-225, Side 1]
MR. CRIBBINS: Right now, we have a logistics and acquisition management program with six career fields; supply, maintenance, transportation, contracting and acquisition, quality and reliability assurance, engineers and scientists (non-construction). When we look at this in totality, we have grades GS-12, which we brought on board just this past year, through GS-15. These people are selected very carefully by a LOGAMP board based on their qualifications. They have to

agree to certain things when they enter the program. It takes about two to three years to become certified in LOGAMP with multi-functional or dual-tracked skills. In other words, a logistician in supply, maintenance or transportation would dual track as quality assurance, contract an acquisition engineer/scientist. We find that this program has become a real winner. For example, I recently received a memorandum from Mr. Costello who is the Department of Defense Acquisition Executive pointing out that LOGAMP is a fine program for training civilians. LOGAMP also became the program that was the prototype for the new Army Civilian Training and Education Development program called ACTEDS by DCSPER. So LOGAMP is now well on the way and going great. General Ross has been a great supporter. He was part of the initiation of the program here when he was Director of Transportation, Energy and Troop Support, DA ODCSLOG. When he became Chief of Staff over in the Army Materiel Command, he supported the program greatly. The three proponents for the program were the DCSLOG, the DCSPER and the Commander of the Army Materiel Command. So, now as the DCSLOG, General Ross is one of the proponents for this program. We are really pushing this. We intend to keep it alive and well. It is doing very well at the moment. The

civilian work force greatly appreciates the opportunity to get the same sort of training that the military does.

INTERVIEWER: Does LOGAMP pertain to civilians who work in logistics throughout the Department of the Army?

MR. CRIBBINS: Yes, it affects civilians across the Army. Now, AMC has the largest percentage (about 75 percent) of these civilians in grade levels 12 to 15, but LOGAMP is in every MACOM. Ms.Melinda S. Darby is our executive agent for LOGAMP. We have a DA Board and I am co-chair for that board with Mr. Dick Heinbach who is the Assistant Deputy to General Hissong, Deputy for Readiness over at AMC. Mr. Bob Black, AMC, Mr. Joe Galbraith who is the civilian personnel chief in the Army Personnel Agency, and Ms. Marie Acton, who is the Deputy for Resources in AMC are members of the board. The board establishes the criteria for the LOGAMP. Programs are run by the executive agent on a day-to-day basis with the help of a capable staff. Ms. Darby has done a super job with this program.

INTERVIEWER: I want to cover something that I feel is everybody's business. You can't talk aviation or the

Army for that matter without talking about safety. I believe that you have been involved in some of the recent initiatives to enhance aviation safety.

MR. CRIBBINS: I guess General Wickham put it better than anyone when he came on board as the Chief of Staff. I've know General Wickham since he was a young field grade officer working for General Harold K. Johnson when the latter was Chief of Staff between 1964-68. When General Wickham was CINC UNC in Korea, Colonel Parker, now Major General Parker down at the Aviation Center reported to General Wickham. General Wickham turned to Colonel Parker and said, "Colonel Parker, who is the safety officer in Eighth US Army in Korea?" Colonel Parker started to turn and point to his safety guy in the aviation group. General Wickham said, "Colonel Parker, you are looking at the safety officer. It is me." I think I would say without qualification that the safety officer of the US Army when General Wickham was here was the Chief of Staff of the Army. With his great interest in safety, quite a few things were done here during the period of 1983-87 during which time he was the Chief of Staff. For example, we have a Crisis Action Team in the building. The Crisis Action Team has general officer level

proponents from each one of the major staff elements as well as the Commander of the Safety Center. Anytime that a question arises about safety, that requires across the board coordination, the Crisis Action Team meets and then makes recommendations to the Chief of Staff of the Army as to whether we should ground an aircraft or ground equipment supporting an aircraft if there is safety involved. It has worked very well even though we had to recommend a couple of decisions before they were completely staffed. This does not mean that in any way shape or form that we delay the grounding of the system while we go through a bureaucratic staffing process. For example, General Eckelbarger, currently the ADCSPER is the DCSPER's representative on the Crisis Action Team. General Eckelbarger and I sat here with the other members of the team and put in a conference call to the appropriate members of the Safety Center and Aviation Center at Fort Rucker and to the Aviation Systems Command in St. Louis. We made a determination as to the grounding of an aircraft system within an hour's conference call. We then presented recommendations to the Vice Chief of Staff. So you can see, we have an instantaneous means for taking care of safety issues. This is very important because the safety program of the Army has become a terrific driver

of what we do. We are succeeding in lowering the accident rates in the Army to the lowest ever. For example, in 1986, the aviation accident rate was 1.98 per 100,000 hours and in 1987, it was even lower. Accident rates have been lowered across the board. As Special Assistant for the DCSLOG, I am now Chairman of the Crisis Action Team which handles all safety issues for the ARSTAF. We have just changed the name of this Committee to "Army Safety Action Team" (ASAT). This will entail broader responsibilities in addressing safety and do what is necessary for safety of all people and equipment in the Army.

INTERVIEWER: As I sit in your office and I see the symbols of excellence that you have received over the past 48 years of distinguished service as a soldier and now as an executive within the Department of Army, I would like to hear your comments on the skills and abilities that you feel one needs to be a successful logistician such as yourself.

MR. CRIBBINS: I could answer that in two parts. Simplistically up front I will try to answer your question as well as I can. Then I would like to elaborate a little bit on some of the things that I

believe in. I have had the greatest good fortune that can happen to one. This greatest fortune of all was back in 1944 when I was in the Philippines and in walked one of the first WAAC officers I had ever seen in those days. I happened to be the key person in General MacArthur's headquarters whom one needed to see to get a priority for flying on our intra-theater air lines. This young lieutenant said her name was Helen Whitbeck and she wanted to see Captain Cribbins because I could get her to Manila. As I said before, she eventually did get to Manila where I courted her until I left the theater in September 1945. We got together in the States when Helen got home, I believe in November 1945. We were married February 8, 1946, and on February 8, 1988, Helen and I celebrated our 42nd anniversary. If there is anyone whom I would give credit to for whatever I have done in life, I give it to Helen. She certainly has made the difference. Helen married an uneducated, ex-steeplechase jockey and whatever I have to offer as a person, to this job, and to my career in the Army, I could not have done without Helen. If there is anything that I have found out over the years, there are no geniuses around here especially this fellow who is talking. But, a great advantage that I have had over the last 28 or 29 years and nearly

48 with the Army, has been continuity and the ability to get things done that one can't get done in a single assignment no matter what level the person is. With that continuity, I've had the opportunity of having blue ribbon officers in this office and sort of a standing room only line of people who would like to come to work here. My guidance is that when an officer arrives, as soon as they can, I tell them to get on board, find out what he/she is to do and how to do it. I have a great deal of patience with sins of commission. I don't like sins of omission, but regardless of that, once they get their feet on the ground, they are on their own. If they hit a home run or a run batted in, that is their thing. If they hit into a double play or a strike out, that is what I get paid for and I turn them loose and let them have at it. I find that these blue ribbon officers really produce mightily. The other thing is that I keep an open door all of the time. They always have access to me since I do not use a deputy in this small office. What I do is to allow them complete access to me anytime they need it. I do not try to lead them around by the hand. In fact, I don't even go with them unless they need me no matter what level they are talking to. For example, I don't hesitate to send one of these action officers to

answer a question from the Secretary, the Chief of Staff or Vice Chief of Staff of the Army. I don't do any prompting. I just ask that I am not surprised. About the only contract that we have is that I have asked them "Please don't let me get surprised on things that I should know-otherwise, you are on your own." I find that in that light, one becomes a perceptive hero and if I have any awards, all I can say is that the awards probably belong to the people out there who get the things done because I guess whatever value I have been to the Army has been principally as a catalyst. I am a pretty good innovator. I guess with that, we are backed up with people here -- that makes a difference, and here is the prime example. There is a young lady who has been with me now for over 24 years. Her name is Carolyn Chapman. She was first assigned to me as a secretary when I was still in uniform. She stayed with me from about 1963 or 64 until I retired in 1966. When I came back as a civilian, as soon as I could get Carolyn back, I did. Now, she has been with me about 24 years. She turned down promotion offers and lateral transfer offers which were really attractive. I tried to assure her that I would support her wherever she wanted to be transferred because she was so loyal and competent that I could do nothing

except hope that she would have the best of all worlds in her professional life. One time, for example, there was an arbitrary cut in grades and Carolyn had to take one. She was able to retain her pay level for two years. In that time, I tried to convince her to go find herself a job which she could have very easily done elsewhere in other agencies in the Army or in the other services. She said no, she wanted to stick it out and stay with Army Aviation.. We managed to get her grade and pay back. That kind of loyalty and dedication is one-of-a-kind. Since that time, she had learned and earned her way out of the secretarial field into a full fledged action officer. Carolyn Chapman acts as a guide post for all the young officers coming in here and she is looked upon and has become "MOM" to all of them. She certainly has become greatly respected and highly regarded throughout the Army Aviation program.

INTERVIEWER: Let's take a look at some of your other interests. I understand that you are intimately involved with Quad A, the Army Aviation Association of America. Could you talk about your responsibilities and duties associated with this organization?

MR. CRIBBINS: I am Vice President and National Board Member of Quad A. But before I go on, let me address a couple of the other things I do as a Special Assistant to the DCSLOG which may have led to the perception that I do a lot of things. I represent the DCSLOG with the Army Science board and we have had in the last five years three major logistics studies for the Army Science Board which have helped greatly. I am a member of the Federal Executive Board where we select civilians for training. This has been a big help because we have been able to emphasize the necessity for civilians to receive training and to make sure that there are logisticians who get training as well. I am the chair of a Military/Civilian Advisory Committee. That is a ODCSLOG Committee wherein we get people from each one of the directorates and offices in ODCSLOG together once a quarter and tell it like it is. We make sure that we know what is going on. Here again, I act as the eyes and ears for the DCSLOG. It gives him a good sounding board to find out how the people in DCSLOG feel. I am also on the General Officers Board called Career Program Policy Committee for the new Army Management Staff College for civilians which is now in being and has run its pilot course and is about to run its second one this year. I sat in on a meeting

yesterday of the civilian proponent management sub-committee. In this group, we look at civilian career programs for the total Army civilian population. I trust that this is of some assistance to the DCSLOG. It has certainly broadened my background and my experience and given me a lot of the things to do which I find very interesting and which are of major importance to the Army.

INTERVIEWER: Will the Army's Staff Management College train officers as well as civilians?

MR. CRIBBINS: It is principally for civilians, but in the pilot course, they had 50 people, 42 of whom were civilians and eight who were military. The reason for having the military in there was to give a war fighting flavor to the course itself which would not normally be, but after all, war fighting capability and deterrence is what the Army is all about. The eight military were all graduates of the Command and General Staff College. The next course should have the same number of people. We hope to broaden this course beyond 1988 and 1989. Right now, we still are looking at '88 for a 50 person course with 42 civilians and eight military. In 1989, I asked yesterday if the

policy committee would look critically at the potential for decreasing a couple of military as advisors and increase the number of civilians attending each course because this is the civilian version of the Command General Staff College. It is important that we have as many civilians attend as we can, and with our budgets reduced rather drastically in '88 and '89, we may be unable to have our goal of about 300 civilians per year trained. We are now looking at the potential of probably a maximum of three courses which would give us 50 people per course over the next several years.

INTERVIEWER: Would you tell me a bit more about your role and responsibilities in Quad A?

MR. CRIBBINS: Yes, I've been a member of the Army Aviation Association for many years. This is a super association which supports Army Aviation Programs and still keeps its identity separate from the Army. Therefore, it has the freedom of expression and still supports Army aviation. For the last three years I have been the Vice President as well as a member of the National Board. This last month, at a National Board Meeting, I was asked if I would consider being nominated for the next three years. I said that if I

could be of service I would do so. I am also a member of the Awards Board. I find that to be a help because each year we pick the Army Aviator of the Year, the EM of the Year, the DAC of the Year, and the Safety Person of the Year. I know a lot of people in aviation and in my capacity as an active duty member of the Army aviation program, I find it most helpful to see that people get recognized who we know have done a great job for the Army.

INTERVIEWER: What changes do you envision in the Aviation Logistics business? Specifically, what do you see happening to the Aviation Logistics Office in ODCSLOG?

MR. CRIBBINS: Well, I would trust that in some form this function would remain. I would think that it would be an awful shame after all that we have invested over the years if this office, as it is constituted, were to go down the drain. I am a firm believer that there isn't any one who is indispensable. I am among those. I believe that it is absolutely essential that we recognize that this office has a very important job to do in the Army. I know that the current DCSLOG does. I also believe the DA staff recognizes that, and

I certainly know the Commander of AVSCOM, Major General Stephenson recognizes that. So, looking to the future, I have not thought about retiring mainly because I have enjoyed doing what I am doing too much to think about retiring. I also recognize that we are all mortal. Therefore, I would say that I think it is very important that we look to the future. I am not sure how to answer your question, Colonel Proctor, as to what will happen to the Office when I retire. I am not looking forward to retirement, but I recognize that sooner or later, it is going to happen. I trust that it will be later. Certainly I want to serve throughout General Ross's tenure as the DCSLOG. That is what I am planning on doing.

INTERVIEWER: Sir, let me butt in. I understand that my last question is not an easy one to answer, but I think it is important for you to convey your thoughts having served the Army dutifully for all of these years. Your thoughts are important.

MR. CRIBBINS: Looking at how critical General Officer and Senior Executive Service (SES) spaces are, I don't know how the Army is going to treat my position when I leave. For example, when General Engler was the

DCSLOG, he traded a brigadier general slot in order to get a super grade position because of cut-backs. I have occupied that position for 19 years. I have actually been in this position since January '67 or 21 years. Now comes the big question, will the Army ante up an SES or a general officer to replace me? I guess that is one of the problems in talking about an SES. I had the great advantage of being a combat arms officer who had been associated with aviation. I have worked in aviation for a long time. I have served in General MacArthur's Headquarters and I've worked in the headquarters out in the Far East during both World War II and the Korean War. Further, I served in a major Army depot and an inventory control center in Europe. I came in here by virtue of my background and experience. So I was pretty well qualified for this job. I would say that one of the difficult things is going to be finding a replacement. Obviously, there are people out there in whom I have confidence, who could walk in here and do this job. However, they are either colonels or generals still on active duty. I don't know off hand of any civilian with the qualifications across the board mainly because the civilian that one would be looking for is someone with a military career in aviation who has become a

civilian. Now, with the problems of being unable to collect beyond a certain level of pay, may not be attractive for a colonel or a general to become a civil servant unless they have independent means and just want to do the job for the fun of it.

[End Tape C-225, Side 1]

[Begin Tape C-225, Side 2]

MR. CRIBBINS: Ideally, I would like an alumnus of this office to become my replacement and preferably a general officer because I think there isn't any doubt that it would make a lot of difference in perpetuating the things that we have done. I think that the probability of getting an SES in here would be much less than a general because of the qualifications needed and the problem of the cash flow for an SES who had retired from the military. I can't picture an SES coming in here and doing the kind of job needed without the proper qualifications and background. As a fall back, I would say that maybe General Stephenson and I need to talk about this. One might look at the possibility of having a very fine colonel come in here for a four year tour similar to a project manager backed up by a GM-15 for continuity. I think that

might work very well. That may sound self-serving in that Cribbins is saying that he needs two people to replace him. I don't think that is the answer. I think the real problem is getting one person in here. If we can get one person in here who can do the job, that would be great. The problem, as I see it, is that this office operates at a high level within the Army and I report directly to the DCSLOG. I would say that the broad range of things that are done here will certainly not be continued unless we get someone in here that the DCSLOG can look to as his aviation guy. If the DCSLOG wishes to perpetuate the role of the special assistant, that would be another factor to consider. I had the advantage of being here and having served here so long, it is going to be a tough job to find the right kind of person. As I said, without hesitation, I could find a small number of colonels or brigadier generals that could come in here and run this office without any difficulty.

[End Tape C-225, Side 2]

[Begin Tape C-226, Side 1]

INTERVIEWER: You raised the issue earlier of on condition maintenance. I believe you wanted to elaborate on its importance.

MR CRIBBINS: I do believe that there are misunderstandings about on conditioned maintenance. Maybe I can clarify it by talking in layman's terms. There are really three kinds of maintenance that we recognize. One being "hard time" maintenance wherein we have times between overhaul or finite life between overhaul or even finite life until disposal and that is known as "hard time" maintenance. There is "on conditioned" maintenance which is the maintenance that you schedule specifically. When you do the scheduled inspections, you only do that maintenance that is needed. Then there is "condition monitoring" maintenance, which is purely associated with monitoring the status of an item or materiel. It is important to note that the condition monitoring concept can only be used when safety is not involved or you are not concerned about safety or reliability and when you can visually inspect. Let me give you a for instance. If at every 10,000 miles, regardless of condition you change all the spark plugs on your automobile, that is a "hard time" maintenance concept. That says that

regardless of condition, every 10,000 miles the spark plugs will be changed. If conversely, you inspect at 10,000 miles and during that inspection, you decide which spark plugs need replacing, which need cleaning, re-adjusting or which ones may not need anything done that is "on condition" maintenance. Conversely, for "condition monitoring" you would merely wait until such time that the performance of the car started decreasing or began knocking like the anvil chorus, in which case the spark plugs would be removed, replaced, cleaned or whatever. Now there always appears to be a misunderstanding that "on condition" maintenance means that you don't do anything until something goes wrong. That is incorrect. There is timing of inspections to make sure that you spot something going wrong before it happens. The real thrust is that you do not have a "hard time" for removal or retirement. What you do have is a hard time for inspections with maintenance being done as needed rather than very specifically doing it regardless of need. I think this is very important because, as I say, there has been a lot of misunderstanding about what "on condition" maintenance really is.

INTERVIEWER: There have been comments made about the reliability of the Black Hawk as a result of the accident that occurred at Fort Campbell, Kentucky recently. I take it that the critics of the Black Hawk will at times make disparaging remarks about a weapon system when such unfortunate incidents occur. I would like to get your thoughts, because in the military community, the Black Hawk is considered a superb aircraft.

MR CRIBBINS: First on the accident, Peet, there has been absolutely no indication of materiel, maintenance or other failure. The unfortunate accident in which 17 people were killed when two aircraft collided is still under investigation. There was absolutely no lack of reliability or any problems with the Black Hawk as a result of that accident investigation and that is about as far as I can comment on the investigation. As to your second point concerning the reliability of the Black Hawk, you know I have been around a long, long time and have been looking at the Black Hawk since it was first fielded in October 1978. I really believe that the Black Hawk has been as reliable as any system that I have seen fielded during my time with the Army and that goes back a long, long way -- well, like to

the 1940s. During that time, as you know, I have progressed from horses into infantry and then into aviation. I have seen three wars and a lot of incidents. I think the Black Hawk has developed a reputation in the media through the fact that we have recognized problems up front and fixed them before they got out of hand. I think that sometimes with new systems, we have not always recognized the problems that we are faced with. I would call them infant mortality problems. That is, maintainability or reliability problems crop up from time to time in any new system. We have been very open minded and above board on the Black Hawk in publicizing the problems as well as fixes with the Black Hawk. Accordingly, it appears that the media has come up with a perception that the Black Hawk is an unreliable aircraft. Further, in the last three to four years we have developed a program we call the Flight Safety Parts Program. That program tests every part that could cause a critical failure or catastrophic accident from the very basic design through production and utilization in the field. It is tested and retested. We work with industry, the prime manufactures, the vendors, the subvendors, our own people, the people in the field and we chase down every one of those parts to make sure

they are going to be reliable and safe for operation as well as being maintainable for use in the field. Now, when one does this up front, then there is apt to be the perception that when you find that one of these parts needs fixing, what you have is an unreliable system. Nothing could be further from the truth. What we are really doing is making sure that the Black Hawk will remain the reliable system that it is. In my estimation, certainly it is both a reliable, and a very safe system. I think also there is the perception somehow that the Black Hawk is nothing but a big Huey. Nothing could be further from the truth. The Black Hawk is a state of the art utility helicopter capable of doing many, many things. The Black Hawk runs somewhere between four and four and one-half million dollars per aircraft. The single $65,000 engine in the Huey does not equate to the two $500,000 engines in the Black Hawk. In summary, I believe and I would firmly stand by this, that the Black Hawk is an exceptionally safe, reliable, and maintainable aircraft and we are making certain that it remains just that.

INTERVIEWER: I am glad you pointed out your proactive approach of dealing with the Black Hawk's reliability.

MR CRIBBINS: Someday I'll give you an analogy and it is worth giving, because it is part of history now. At the time of the Cuban crisis, the 2d Armored Division was alerted to move from Fort Hood to the east coast in preparation for the Cuban crisis. I'll use names because they are a matter of record. General Ralph Haines, later Vice Chief of Staff of the Army, was the Division Commander. General Haines quite properly grounded his aircraft fleet. In those days, the division had either OH-13 or OH-58s and if he had larger helicopters, they would have been CH-34s. At any rate, he grounded the whole division fleet. As a result of grounding the fleet and putting them through a periodic inspection, he turned up a lot of things that were wrong with those aircraft. As a result of that, in looking at the fleet, our inspectors from outside and I believe it was the GAO, but I am not dead certain about this, took a look at the fleet and made the comment that so many things had been found during that inspection that the fleet was unreliable because it had not been properly maintained. This was an interesting observation. I think in justice to whomever did the inspection, it was a reasonable assumption that since some of these aircraft had been inspected a very few flying hours before that they all

should have been in relatively perfect condition unless they were due for the next one hundred hour inspection, which was our periodic in those days. Well, I was given the action here to take a look at the reasonableness of these findings. I did. I took a very critical look at it. I knew what had happened. I think the real difficulty was the lack of communication between the people who were inspecting, and those who were being inspected. I had to testify over on the Hill on this matter to the House Appropriation Committee. I told the committee that I could understand why the inspectors arrived at that conclusion, but it was not a correct conclusion and they should have been told why not. I said that our hundred hour inspections were geared to make sure that the aircraft would operate safely until the next inspection interval of one hundred hours. That's the way we had geared our inspection intervals. It was based upon the very best engineering information and growth of demand data and experience with the system, modernization, modifications and all the rest of those things had gone in to help establish the intervals. However, what they had to recognize was that if an aircraft were inspected today, passed inspection and subsequently had flown for two hours, it might very

well have generated some faults that would have been found after the hundred hour inspection. Those faults were the kind of faults that would have not in any way impacted adversely upon safety until the next hundred hour inspection. As a result of this, we closed the book on the inspection and there was nothing further done about it. There was a satisfactory conclusion, I do believe, because I think for the first time that some of the people who had not been associated with our maintenance concepts understood how these inspection intervals worked. The analogy here is, again just like the Black Hawk, if you go looking for something, you will find it and that is exactly what we have been doing with the Black Hawk with the Flight Safety Parts and all the other things. We have been finding a lot of things before they cause something unfortunate to happen and we have not hesitated to publicize the things that we have found. When we have found things, we in turn have done something about it. But, what it means is that we have kept a safe, reliable aircraft and as I say, it was really analgous to what happened during the Cuban crisis some 28 years ago when we inspected the fleet and found that there were problems immediately after an inspection. Surely, you would

expect to find them, but you wouldn't find them unless you open the aircraft up to look for them.

[End Tape C-226, Side 1]

[Begin Tape C-226, Side 2]

INTERVIEWER: Recently, one of your mentors, General Frank Besson,was recognized by having a logistics support vessel commissioned in his honor. Did you attend that ceremony?

MR. CRIBBINS: I was there. I wouldn't have missed that for anything. Also, something else about General Besson. Yes, he was a mentor of mine. He brought me into Washington in 1959 when I came from Europe. He gave me a division when he was Director of Transportation. When he became Commander of the Army Materiel Command and I was asked to come to the Pentagon, he asked me if I would consider doing that. He said he needed a friend over here and I came here. I remained very close to him while he was in the Pentagon and while he was commander of the Army Materiel Command. As a matter of fact, General Dick Stephenson, who is now Commander of AVSCOM, was his

military aide and assistant in those days. Believe me, he was a lot more than a military aide because he was one of the best action officers over in T7 and the Army Materiel Command in those days. I felt very close to General Besson who was without a doubt one of the super people of all time that I have known. So I was at the commissioning. Also, I might point out that General Stephenson, who was much closer to General Besson than I was, looked upon General Besson as a surrogate father because General Stephenson's father had died when Dick was very young. We got together and three years ago, we nominated, and then the Awards Board for the Quad A Hall of Fame approved the induction of General Frank Besson into the Army Aviation Hall of Fame at Fort Rucker. I had the honor of inducting General Frank Besson since one has to be a member of the Aviation Hall of Fame to induct another member. When I did, I asked Dick Stephenson to come with me because I knew how strongly Dick felt about it and how much he had worked toward getting General Besson into the Hall of Fame. Certainly a well deserved award among so many others he had. A terrific man. One of the finest. I think when I look back at the top leaders of the Army, I've been lucky in knowing some of them. He was certainly one whom I would place way, way up there as

being one of the very best. General Creighton Abrams was another. General Johnson, the Chief of Staff whom I got to know very well during the days of Vietnam ranks at the top as well. General Shy Meyer who came in to see me the other day is another. I knew him as a lieutenant colonel. I have known General Wickham over a long period of time. General Richard H. Thompson, Commander of AMC, who I have known since he was a major. I must say that I have been very, very fortunate in knowing some of the top level people in the Army and having had the privilege of serving with them. If I were to sum up anything, Colonel Proctor, I would say that with all the awards, and other forms of recognition, the Army has done a great deal more for me than I ever could have done for the Army. It has given me a wonderful career and a wonderful wife. It is a wonderful organization. Helen and I were unfortunate that we never had any children. I must say that I have the largest family that one could ever wish for and that is the Army aviation family. I have been one of the luckiest fellows in the world. I said this to the Vice Chief, General Arthur Brown whom I travelled with the other day. He is a super person. I have known him for years as well as General Kickligher, the Director of the Army Staff and General Carl Vuono, now

the Chief of Staff of the Army. I was with General Brown and I said to him just out of blue, "You know Sir, I have got to be the luckiest guy in the world. I have an Army aviation family. It is worldwide. It is a wonderful feeling to know that you have that kind of a family out there." It is just a great feeling. When I look at my age, I was born in 1914 so I will be 74 years old in March. I would say Cribbins, "You have not only been lucky in sticking around for a long time, but when you look at what you have done, how you've enjoyed doing it, and the people you have worked with and the Army itself-how lucky can you be." I have been the luckiest.

INTERVIEWER: Sir, I think I can make a comment that would be shared by many others. We are fortunate to have you influence our lives. I think if Peet Proctor, were to have a say, your legacy, in my estimation has been that you are the "classic" mentor.

MR. CRIBBINS: Colonel Proctor, I would say that's what it is all about; being part of the family, being a mentor when mentoring is needed, being a supporter, and taking responsibility when it is needed to be taken and not shoving off the problems when the going gets rough.

I trust that I have kept the faith and anytime that I felt that I wasn't keeping the faith, I tried to face up to it. I think what you have just said is what it is all about. Being part of a family; being a mentor, being responsible for your actions and making sure that the people who work with you and for you get their just rewards in the sense of getting promoted, good assignments, and being recognized.

INTERVIEWER: Sir, let me say that on behalf of the U.S. Army War College and the Military History Institute, thank you for allowing me to conduct your oral history. If time permits, I would like to continue your oral history after I complete my studies at the War College. I am really honored to have had the pleasure to come down and spend a few hours with you covering your life as a citizen soldier, a soldier and an executive within Headquarters, Department of the Army.

MR. CRIBBINS: Peet, to say what I've learned over the years is that "It always takes two to tango." I was so pleasantly surprised when you came in and told me that you were going to do the oral history. I knew you when you worked here in the building, I know your reputation

and I know what you are doing and how you have done it. I must say that your dedication to this particular task has been just great. For me, it has been a great pleasure to be with you. I do trust that whatever has come out of this will prove to be of some value to some people. It has been a great pleasure to have worked with you, my friend, and I would say thank you very much. You are a great guy and I consider you a super colleague and a good friend.

[End Tape C-226, Side 2]